

Chemical Analysis Report

SE-DIST-2023-07-20-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Stuart Run**
Request ID: **RQ-2023-07-17-23**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Jordan Skaggs

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 11-AUG-2023 10:09



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: ROEBUCK CREEK AT LOCKS

Collection Date/Time: 07/19/2023 09:30

Field ID: G2SE0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425447	EPA 8321B	2,4-D	0.020		ug/L	P432883	
		Acesulfame K	0.14	I	ug/L	P432878	RPD
		2,4,5-T	0.0040	U	ug/L	P432883	
		AMPA	4.6		ug/L	P432878	MS
		Acetaminophen	0.0080	U	ug/L	P432883	
		Acetamiprid	0.0020	U	ug/L	P432883	
		Endothall	0.25	U	ug/L	P432878	
		Glufosinate	0.10	U	ug/L	P432878	
		Glyphosate	1.4		ug/L	P432878	
		Afidopyropen	0.0020	U	ug/L	P432883	
		Bentazon	0.022		ug/L	P432883	
		Sucralose	11		ug/L	P432878	RPD
		Benzovindiflupyr	0.0020	U	ug/L	P432883	
		Carbamazepine	0.0085		ug/L	P432883	
		Clothianidin	0.30		ug/L	P432883	
		Dinotefuran	0.0037	I	ug/L	P432883	
		Diuron	0.0020	U	ug/L	P432883	MS
		Fenuron	0.032	U	ug/L	P432883	
		Fluridone	0.21		ug/L	P432883	
		Imazapyr	0.48		ug/L	P432883	
		Hydrocodone	0.0020	U	ug/L	P432883	
		Ibuprofen	0.080	U	ug/L	P432883	
		Imidacloprid	0.038		ug/L	P432883	
		Linuron	0.0040	U	ug/L	P432883	
		Mandestrobin	0.0020	U	ug/L	P432883	
		MCPP	0.0057	I	ug/L	P432883	
		Naproxen	0.0080	U	ug/L	P432883	
		Primidone	0.036		ug/L	P432883	
		Pyraclostrobin	0.0020	U	ug/L	P432883	
		Silvex	0.0040	U	ug/L	P432883	
		Thiamethoxam	0.0020	U	ug/L	P432883	
		Tolfenpyrad	0.0020	U	ug/L	P432883	
		Triclopyr	0.0040	U	ug/L	P432883	

Sample Location: KRUEGER CREEK NEAR COMMISSIONERS PARK

Collection Date/Time: 07/19/2023 10:45

Field ID: G2SE0069

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425431	DEP SOP: NU-094-1	Color (true)	53		PCU	P432789	
	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P432797	
	EPA 300.0 Rev. 2.1	Chloride	7.3E+03		mg Cl/L	P433121	
		Sulfate	1.1E+03		mg SO4/L	P433124	
	SM 2320 B-2011	Total Alkalinity	117		mg CaCO3/L	P433013	
	SM 2540 C-2015	TDS	1.37E+04		mg/L	P433338	
	SM 2540 D-2015	TSS	3	U	mg/L	P433191	
2425432	SM 4500-F- C-2011	Fluoride	0.57		mg F/L	P433014	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P432862	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P433031	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P432946	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P432888	
2425445	SM 5310 B-2011	Organic Carbon	10		mg C/L	P432911	
	EPA 8270E	Aldrin	0.66	U	ng/L	P432753	
		Alpha-BHC	0.10	U	ng/L	P432753	
		Alpha-Chlordane	0.20	U	ng/L	P432753	
		PCB-1016	2.0	UJ	ng/L	P432753	SUR
		Beta-BHC	0.10	UJ	ng/L	P432753	RPD
		PCB-1221	2.0	UJ	ng/L	P432753	SUR
		Beta-Cyfluthrin	1.3	U	ng/L	P432753	
		PCB-1232	2.0	UJ	ng/L	P432753	SUR
		Bifenthrin	0.51	U	ng/L	P432753	
		PCB-1242	2.0	UJ	ng/L	P432753	SUR
		Carbophenothion	0.91	U	ng/L	P432753	
		PCB-1248	2.0	UJ	ng/L	P432753	SUR
		Chlorothalonil	3.7	U	ng/L	P432753	
		PCB-1254	2.0	UJ	ng/L	P432753	SUR
		Cis-Nonachlor	0.20	U	ng/L	P432753	
		PCB-1260	2.0	UJ	ng/L	P432753	SUR
		Cypermethrin	1.5	U	ng/L	P432753	
		Dacthal	0.15	UJ	ng/L	P432753	LCS, RPD
		DDD-p,p'	0.37	I	ng/L	P432753	
		DDE-p,p'	0.20	U	ng/L	P432753	
		DDT-p,p'	0.81	U	ng/L	P432753	
		Delta-BHC	0.41	U	ng/L	P432753	
		Deltamethrin	1.3	U	ng/L	P432753	
		Dichlobenil	0.25	U	ng/L	P432753	
		Dicofol	1.3	U	ng/L	P432753	
		Dieldrin	0.41	U	ng/L	P432753	
		Endosulfan I	0.41	U	ng/L	P432753	
		Endosulfan II	0.91	U	ng/L	P432753	
		Endosulfan Sulfate	0.30	U	ng/L	P432753	
		Endrin	0.91	U	ng/L	P432753	

Field ID: G2SE0069

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425445	EPA 8270E	Endrin Aldehyde	0.76	U	ng/L	P432753	
		Endrin Ketone	0.41	U	ng/L	P432753	
		Esfenvalerate	0.76	U	ng/L	P432753	
		Ethalfuralin	0.15	U	ng/L	P432753	
		Fenpropathrin	0.25	U	ng/L	P432753	
		Gamma-BHC	0.13	U	ng/L	P432753	
		Gamma-Chlordane	0.20	U	ng/L	P432753	
		Heptachlor	0.20	U	ng/L	P432753	
		Heptachlor Epoxide	0.25	U	ng/L	P432753	
		Hexachlorobenzene**	1.0	U	ng/L	P432753	
		Kepone	14	U	ng/L	P432753	
		Lambda-Cyhalothrin	0.76	U	ng/L	P432753	
		Methoprene	0.76	U	ng/L	P432753	
		Methoxychlor	0.30	U	ng/L	P432753	
		MGK-264	0.20	UJ	ng/L	P432753	RPD
		Mirex	0.36	U	ng/L	P432753	
		Oxychlordane	0.30	U	ng/L	P432753	
		Permethrin	1.6	U	ng/L	P432753	
		Phenothrin	0.91	U	ng/L	P432753	
		Piperonyl Butoxide	0.42	IJ	ng/L	P432753	MS
		Prallethrin	2.0	U	ng/L	P432753	
		Tau-Fluvalinate	0.25	U	ng/L	P432753	
		Tetramethrin	0.76	U	ng/L	P432753	
		Trans-Nonachlor	0.20	U	ng/L	P432753	
		Triclosan Methyl	0.15	U	ng/L	P432753	
		Trifluralin	0.20	U	ng/L	P432753	
	EPA 8276	Chlordane	2.0	UQ	ng/L	P433371	
		Toxaphene	150	Q	ng/L	P433371	
2425448	EPA 200.7 Rev. 4.4	Calcium	193		mg/L	P432913	
		Iron	140	I	ug/L	P432913	
		Magnesium	503		mg/L	P432913	
		Potassium	147		mg/L	P432913	
		Sodium	3.96E+03		mg/L	P432913	
		Strontium	3.22E+03		ug/L	P432913	
		Tin	9.0	U	ug/L	P432913	
		Titanium	2.3	I	ug/L	P432913	
		Vanadium	6.0	U	ug/L	P432913	
		Zinc	15	U	ug/L	P432913	
	EPA 200.8 Rev. 5.4	Aluminum	123		ug/L	P432913	
		Antimony	0.20	U	ug/L	P432913	
		Arsenic	3.11		ug/L	P432913	
		Barium	15.4		ug/L	P432913	
		Beryllium	0.040	U	ug/L	P432913	
		Boron	1.68E+03		ug/L	P432913	
		Cadmium	0.080	U	ug/L	P432913	

Field ID: G2SE0069

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425448	EPA 200.8 Rev. 5.4	Chromium	1.6	U	ug/L	P432913	
		Cobalt	0.080	U	ug/L	P432913	
		Copper	3.0	I	ug/L	P432913	
		Lead	0.80	U	ug/L	P432913	
		Manganese	23.4		ug/L	P432913	
		Molybdenum	5.4		ug/L	P432913	
		Nickel	2.0	U	ug/L	P432913	
		Selenium	0.80	U	ug/L	P432913	
		Silver	0.040	U	ug/L	P432913	
		Thallium	0.40	U	ug/L	P432913	
	SM 2340 B-2011	Hardness	2.55E+03		mg/L	P432913	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8270E: Reported results are J qualified due to surrogate recovery exceeding control limits; the sample was re-extracted and re-analyzed beyond expiration with acceptable surrogate recovery and the same analytical results were obtained. Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8276: Sample expired for preparation due to need for re-extraction.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium, sodium and strontium are unavailable because of high analyte concentration in the QC sample.

Sample Location: MAPPS CREEK TIDAL AT MAPP RD

Collection Date/Time: 07/19/2023 11:15

Field ID: G2SE0076

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425450	EPA 200.7 Rev. 4.4	Calcium	27.9		mg/L	P432849	
		Iron	1.05E+03		ug/L	P432849	
		Magnesium	2.07		mg/L	P432849	
		Potassium	1.6		mg/L	P432849	
		Sodium	11.7		mg/L	P432849	
		Strontium	159		ug/L	P432849	
		Tin	3.2	I	ug/L	P432849	
		Titanium	10.1		ug/L	P432849	
		Vanadium	2.0	U	ug/L	P432849	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P432849	
		Aluminum	481		ug/L	P432849	
		Antimony	0.091	I	ug/L	P432849	
		Arsenic	1.13		ug/L	P432849	
		Barium	11.7		ug/L	P432849	
		Beryllium	0.018	I	ug/L	P432849	
		Boron	22.5		ug/L	P432849	
		Cadmium	0.020	U	ug/L	P432849	
		Chromium	0.93	I	ug/L	P432849	
		Cobalt	0.098		ug/L	P432849	
		Copper	1.20		ug/L	P432849	
		Lead	0.63		ug/L	P432849	
		Manganese	11.7		ug/L	P432849	
		Molybdenum	0.65		ug/L	P432849	
		Nickel	0.50	U	ug/L	P432849	
		Selenium	0.20	U	ug/L	P432849	
		Silver	0.010	U	ug/L	P432849	
		Thallium	0.10	U	ug/L	P432849	
	SM 2340 B-2011	Hardness	78.3		mg/L	P432849	

Sample Location: ST LUCIE CANAL NEAR I 95

Collection Date/Time: 07/19/2023 11:45

Field ID: G2SE0077

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425433	DEP SOP: NU-094-1	Color (true)	77	A	PCU	P432792	
	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P432797	
	EPA 300.0 Rev. 2.1	Chloride	530		mg Cl/L	P433121	
		Sulfate	93		mg SO4/L	P433124	
	SM 2320 B-2011	Total Alkalinity	119		mg CaCO3/L	P432900	
	SM 2540 C-2015	TDS	1.07E+03		mg/L	P433337	
	SM 2540 D-2015	TSS	30		mg/L	P433187	
	SM 4500-F- C-2011	Fluoride	0.16		mg F/L	P432903	MS, RPD
2425434	EPA 350.1 Rev. 2.0	Ammonia-N	0.069		mg N/L	P432985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P433028	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.069		mg N/L	P432950	
	EPA 365.1 Rev. 2.0	Total-P	0.27		mg P/L	P432886	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P432910	
2425451	EPA 200.7 Rev. 4.4	Calcium	67.6		mg/L	P432849	
		Iron	930		ug/L	P432849	
		Magnesium	37.3		mg/L	P432849	
		Potassium	12.5		mg/L	P432849	
		Sodium	289		mg/L	P432849	
		Strontium	652		ug/L	P432849	
		Tin	3.8	I	ug/L	P432849	
		Titanium	3.6		ug/L	P432849	
		Vanadium	2.2	I	ug/L	P432849	
		Zinc	5.0	U	ug/L	P432849	
	EPA 200.8 Rev. 5.4	Aluminum	402		ug/L	P432849	
		Antimony	0.15	I	ug/L	P432849	
		Arsenic	1.84		ug/L	P432849	
		Barium	20.5		ug/L	P432849	
		Beryllium	0.028	I	ug/L	P432849	
		Boron	145		ug/L	P432849	
		Cadmium	0.020	U	ug/L	P432849	
		Chromium	1.1	I	ug/L	P432849	
		Cobalt	0.137		ug/L	P432849	
		Copper	3.38		ug/L	P432849	
		Lead	6.60		ug/L	P432849	
		Manganese	43.2		ug/L	P432849	
		Molybdenum	1.97		ug/L	P432849	
		Nickel	0.59	I	ug/L	P432849	
		Selenium	0.20	I	ug/L	P432849	
		Silver	0.010	U	ug/L	P432849	
		Thallium	0.10	U	ug/L	P432849	
		Hardness	322		mg/L	P432849	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: BESSEY CREEK AT MURPHY

Collection Date/Time: 07/19/2023 12:15

Field ID: G2SE0017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425446	EPA 8270E	Aldrin	0.67	U	ng/L	P432753	
		Alpha-BHC	0.10	U	ng/L	P432753	
		Alpha-Chlordane	0.21	U	ng/L	P432753	
		PCB-1016	2.1	U	ng/L	P432753	
		Beta-BHC	0.10	U	ng/L	P432753	RPD
		PCB-1221	2.1	U	ng/L	P432753	
		Beta-Cyfluthrin	1.3	U	ng/L	P432753	
		PCB-1232	2.1	U	ng/L	P432753	
		Bifenthrin	0.51	U	ng/L	P432753	
		PCB-1242	2.1	U	ng/L	P432753	
		Carbophenothion	0.93	U	ng/L	P432753	
		PCB-1248	2.1	U	ng/L	P432753	
		Chlorothalonil	3.7	U	ng/L	P432753	
		PCB-1254	2.1	U	ng/L	P432753	
		Cis-Nonachlor	0.21	U	ng/L	P432753	
		PCB-1260	2.1	U	ng/L	P432753	
		Cypermethrin	1.5	U	ng/L	P432753	
		Dacthal	0.15	UJ	ng/L	P432753	LCS, RPD
		DDD-p,p'	0.26	U	ng/L	P432753	
		DDE-p,p'	0.21	U	ng/L	P432753	
		DDT-p,p'	0.82	U	ng/L	P432753	
		Delta-BHC	0.41	U	ng/L	P432753	
		Deltamethrin	1.3	U	ng/L	P432753	
		Dichlobenil	0.26	U	ng/L	P432753	
		Dicofol	1.3	U	ng/L	P432753	
		Dieldrin	0.41	U	ng/L	P432753	
		Endosulfan I	0.41	U	ng/L	P432753	
		Endosulfan II	0.93	U	ng/L	P432753	
		Endosulfan Sulfate	0.31	U	ng/L	P432753	
		Endrin	0.93	U	ng/L	P432753	
		Endrin Aldehyde	0.77	U	ng/L	P432753	
		Endrin Ketone	0.41	U	ng/L	P432753	
		Esfenvalerate	0.77	U	ng/L	P432753	
		Ethalfuralin	0.15	U	ng/L	P432753	
		Fenpropathrin	0.26	U	ng/L	P432753	
		Gamma-BHC	0.13	U	ng/L	P432753	
		Gamma-Chlordane	0.21	U	ng/L	P432753	
		Heptachlor	0.21	U	ng/L	P432753	
		Heptachlor Epoxide	0.26	U	ng/L	P432753	
		Hexachlorobenzene**	1.0	U	ng/L	P432753	
		Kepone	14	U	ng/L	P432753	
		Lambda-Cyhalothrin	0.77	U	ng/L	P432753	
		Methoprene	0.77	U	ng/L	P432753	
		Methoxychlor	0.31	U	ng/L	P432753	

Field ID: G2SE0017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425446	EPA 8270E	MGK-264	0.21	U	ng/L	P432753	RPD
		Mirex	0.36	U	ng/L	P432753	
		Oxychlordane	0.31	U	ng/L	P432753	
		Permethrin	1.6	U	ng/L	P432753	
		Phenothrin	0.93	U	ng/L	P432753	
		Piperonyl Butoxide	1.5		ng/L	P432753	
		Prallethrin	2.1	U	ng/L	P432753	
		Tau-Fluvalinate	0.26	U	ng/L	P432753	
		Tetramethrin	0.77	U	ng/L	P432753	
		Trans-Nonachlor	0.21	U	ng/L	P432753	
		Triclosan Methyl	0.15	U	ng/L	P432753	
		Trifluralin	0.21	U	ng/L	P432753	
		Chlordane	2.1	U	ng/L	P432753	
		Toxaphene	15	U	ng/L	P432753	
2425449	EPA 8276						MS
	EPA 200.7 Rev. 4.4	Calcium	59.0		mg/L	P432849	
		Iron	750		ug/L	P432849	
		Magnesium	9.87		mg/L	P432849	
		Potassium	4.0		mg/L	P432849	
		Sodium	77.0		mg/L	P432849	
		Strontium	398		ug/L	P432849	
		Tin	3.8	I	ug/L	P432849	
		Titanium	0.81	I	ug/L	P432849	
		Vanadium	2.0	U	ug/L	P432849	
		Zinc	5.0	U	ug/L	P432849	
	EPA 200.8 Rev. 5.4	Aluminum	63		ug/L	P432849	
		Antimony	0.10	I	ug/L	P432849	
		Arsenic	2.11		ug/L	P432849	
		Barium	11.2		ug/L	P432849	
		Beryllium	0.010	U	ug/L	P432849	
		Boron	65.6		ug/L	P432849	
		Cadmium	0.020	U	ug/L	P432849	
		Chromium	0.45	I	ug/L	P432849	
		Cobalt	0.114		ug/L	P432849	
		Copper	0.42	I	ug/L	P432849	
		Lead	0.20	U	ug/L	P432849	
		Manganese	19.1		ug/L	P432849	
		Molybdenum	0.74		ug/L	P432849	
		Nickel	0.50	U	ug/L	P432849	
		Selenium	0.20	U	ug/L	P432849	
		Silver	0.010	U	ug/L	P432849	
		Thallium	0.10	U	ug/L	P432849	
	SM 2340 B-2011	Hardness	188		mg/L	P432849	

Ref. Method and Comment:
EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P432789

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P432792

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432797

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P432849

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P432913

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P432849

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432849

Component	Result	Code	Units
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432913

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P433121

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P433124

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P432862

Component	Result	Code	Units
-----------	--------	------	-------

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432862

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432985

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433028

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433031

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432946

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432950

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432886

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432888

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 8270E
Batch ID: P432753

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-BHC	0.10	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P432753

Component	Result	Code	Units
Alpha-Chlordane	0.20	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Bifenthrin	0.50	U	ng/L
Carbophenothion	0.90	U	ng/L
Carbophenothion	0.90	U	ng/L
Chlorothalonil	3.6	U	ng/L
Chlorothalonil	3.6	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.80	U	ng/L
DDT-p,p'	0.80	U	ng/L
Delta-BHC	0.40	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.25	U	ng/L
Dichlobenil	0.25	U	ng/L
Dicofol	1.2	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.90	U	ng/L
Endrin	0.90	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Fenpropathrin	0.25	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P432753

Component	Result	Code	Units
Gamma-BHC	0.12	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	14	U	ng/L
Kepone	14	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.35	U	ng/L
Mirex	0.35	U	ng/L
Oxychlordane	0.30	U	ng/L
Oxychlordane	0.30	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
Permethrin	1.6	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Trans-Nonachlor	0.20	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P432753

Component	Result	Code	Units
Triclosan Methyl	0.15	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276

Batch ID: P432753

Component	Result	Code	Units
Chlordane	2.0	U	ng/L
Chlordane	2.0	U	ng/L
Toxaphene	15	U	ng/L
Toxaphene	15	U	ng/L

Reference Method: EPA 8276

Batch ID: P433371

Component	Result	Code	Units
Chlordane	2.0	U	ng/L
Chlordane	2.0	U	ng/L
Toxaphene	15	U	ng/L
Toxaphene	15	U	ng/L

Reference Method: EPA 8321B

Batch ID: P432878

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P432883

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P432883

Component	Result	Code	Units
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P432900

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2320 B-2011
Batch ID: P433013

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-2015
Batch ID: P433337

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P433338

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P433187

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P433191

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P432903

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P433014

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P432910

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P432911

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P432789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.1		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P432792

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.8		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432797

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.5		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P432849

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	109		P	85 - 115
Iron	107		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	105		P	85 - 115
Sodium	106		P	85 - 115
Strontium	103		P	85 - 115
Tin	106		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	103		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P432913

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	106		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	100		P	85 - 115
Sodium	100		P	85 - 115
Strontium	95.7		P	85 - 115
Tin	98.7		P	85 - 115
Titanium	97.3		P	85 - 115
Vanadium	97.9		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P432849

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.1		P	80 - 120
Antimony	98.2		P	80 - 120
Arsenic	96.6		P	80 - 120
Barium	101		P	80 - 120

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P432849

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Beryllium	92.4		P	80 - 120
Boron	94.9		P	80 - 120
Cadmium	97.8		P	80 - 120
Chromium	92.4		P	80 - 120
Cobalt	95.7		P	80 - 120
Copper	96.6		P	80 - 120
Lead	91.6		P	80 - 120
Manganese	93.3		P	80 - 120
Molybdenum	96.3		P	80 - 120
Nickel	94.1		P	80 - 120
Selenium	98.5		P	80 - 120
Silver	114		P	80 - 120
Thallium	93.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P432913

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.5		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	100		P	85 - 115
Barium	104		P	85 - 115
Beryllium	94.2		P	85 - 115
Boron	98.9		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	96.8		P	85 - 115
Cobalt	97.9		P	85 - 115
Copper	96.6		P	85 - 115
Lead	95.3		P	85 - 115
Manganese	97.0		P	85 - 115
Molybdenum	97.6		P	85 - 115
Nickel	96.4		P	85 - 115
Selenium	101		P	85 - 115
Silver	103		P	85 - 115
Thallium	97.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433121

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433124

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432862

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
-----------	---------	---------	-----------	----------------

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432862

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432985

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	101		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	101		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433031

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	105		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432946

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	101		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432950

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432886

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432888

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	102		P	90 - 110

Reference Method: EPA 8270E
Batch ID: P432753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	34.7		P	30 - 96.0
Alpha-BHC	84.5		P	70 - 109
Alpha-Chlordane	59.1		P	45 - 107
Beta-BHC	85.9		P	64 - 138

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P432753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Beta-Cyfluthrin	73.1		P	17 - 141
Bifenthrin	45.0		P	10 - 113
Carbophenothion	44.9		P	24 - 91.0
Chlorothalonil	68.0		P	26 - 180
Cis-Nonachlor	51.0		P	37 - 102
Cypermethrin	49.9		P	20 - 133
Dacthal	58.0		F	69 - 114
DDD-p,p'	74.8		P	42 - 105
DDE-p,p'	58.0		P	42 - 106
DDT-p,p'	59.8		P	42 - 107
Delta-BHC	87.1		P	67 - 144
Deltamethrin	104		P	15 - 149
Dichlobenil	77.9		P	46 - 117
Dicofol	66.8		P	34 - 114
Dieldrin	59.4		P	50 - 108
Endosulfan I	58.1		P	55 - 104
Endosulfan II	74.2		P	51 - 111
Endosulfan Sulfate	74.7		P	56 - 121
Endrin	63.8		P	10 - 106
Endrin Aldehyde	70.2		P	34 - 114
Endrin Ketone	64.4		P	63 - 177
Esfenvalerate	73.6		P	29 - 143
Ethalfuralin	61.8		P	46 - 96.0
Fenpropathrin	58.4		P	28 - 115
Gamma-BHC	98.3		P	65 - 121
Gamma-Chlordane	65.2		P	39 - 103
Heptachlor	49.0		P	39 - 94.0
Heptachlor Epoxide	60.0		P	54 - 104
Hexachlorobenzene	68.8		P	36 - 100
Kepone	85.0		P	10 - 225
Lambda-Cyhalothrin	54.6		P	10 - 135
Methoprene	67.9		P	10 - 109
Methoxychlor	86.6		P	52 - 112
MGK-264	56.8		P	44 - 117
Mirex	56.6		P	20 - 90.0
Oxychlordane	52.2		P	44 - 102
PCB-1016	68.9		P	45 - 107
PCB-1260	71.0		P	40 - 118
Permethrin	69.4		P	18 - 135
Phenothrin	55.1		P	10 - 102
Piperonyl Butoxide	92.4		P	28 - 156
Prallethrin	62.5		P	28 - 113
Tau-Fluvalinate	63.9		P	10 - 123
Tetramethrin	64.4		P	18 - 158
Trans-Nonachlor	73.1		P	39 - 104
Triclosan Methyl	63.6		P	54 - 108
Trifluralin	57.2		P	46 - 97.0

Reference Method: EPA 8276

Batch ID: P432753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
-----------	---------	---------	-----------	----------------

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8276
Batch ID: P432753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	71.4		P	52 - 117
Toxaphene	75.5		P	44 - 125

Reference Method: EPA 8276
Batch ID: P433371

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	85.6		P	52 - 117
Toxaphene	103		P	44 - 125

Reference Method: EPA 8321B
Batch ID: P432878

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	94.8		P	40 - 150
AMPA	144		P	40 - 150
Endothall	106		P	40 - 150
Glufosinate	93.4		P	40 - 150
Glyphosate	91.5		P	40 - 150
Sucralose	83.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P432883

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.8		P	40 - 150
2,4,5-T	70.3		P	40 - 150
Acetaminophen	79.0		P	30 - 150
Acetamiprid	79.5		P	40 - 150
Afidopyropen	57.9		P	30 - 150
Bentazon	126		P	30 - 150
Benzovindiflupyr	78.2		P	40 - 150
Carbamazepine	69.8		P	40 - 150
Clothianidin	88.8		P	40 - 150
Dinotefuran	88.5		P	40 - 150
Diuron	44.0		P	40 - 150
Fenuron	96.2		P	40 - 150
Fluridone	98.8		P	40 - 150
Hydrocodone	80.8		P	40 - 150
Ibuprofen	72.5		P	40 - 150
Imazapyr	79.8		P	40 - 150
Imidacloprid	73.2		P	40 - 150
Linuron	52.1		P	40 - 150
Mandestrobin	81.4		P	40 - 150
MCPP	86.2		P	40 - 150
Naproxen	69.0		P	40 - 150
Primidone	68.7		P	40 - 150
Pyraclostrobin	74.0		P	40 - 150
Silvex	87.9		P	40 - 150
Thiamethoxam	98.3		P	40 - 150
Tolfenpyrad	56.8		P	30 - 150
Triclopyr	70.8		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P432900

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.8		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P433013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	93.8		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P433337

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	104		P	90 - 110

Reference Method: SM 2540 C-2015
Batch ID: P433338

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	98.8		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P433187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	94.1		P	85 - 106

Reference Method: SM 2540 D-2015
Batch ID: P433191

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.8		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P432903

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P433014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P432910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.5		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P432911

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P432849

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425656	Calcium	108	106	P/P	80 - 120
2425656	Iron	107	107	P/P	80 - 120
2425656	Magnesium	107	107	P/P	80 - 120
2425656	Potassium	107	105	P/P	80 - 120
2425656	Sodium	105	105	P/P	80 - 120
2425656	Strontium	103	105	P/P	80 - 120
2425656	Tin	107	103	P/P	80 - 120
2425656	Titanium	102	102	P/P	80 - 120
2425656	Vanadium	102	102	P/P	80 - 120
2425656	Zinc	104	103	P/P	80 - 120
2425747	Calcium	101		P	80 - 120
2425747	Iron	105		P	80 - 120
2425747	Magnesium	102		P	80 - 120
2425747	Potassium	107		P	80 - 120
2425747	Sodium	105		P	80 - 120
2425747	Strontium	102		P	80 - 120
2425747	Tin	102		P	80 - 120
2425747	Titanium	103		P	80 - 120
2425747	Vanadium	104		P	80 - 120
2425747	Zinc	101		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P432913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425676	Iron	95.6	101	P/P	80 - 120
2425676	Tin	87.3	86.8	P/P	80 - 120
2425676	Titanium	88.6	94.5	P/P	80 - 120
2425676	Vanadium	95.9	99.7	P/P	80 - 120
2425676	Zinc	92.2	94.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432849

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425656	Aluminum	99.0	97.9	P/P	80 - 120
2425656	Antimony	100	99.6	P/P	80 - 120
2425656	Arsenic	96.9	96.0	P/P	80 - 120
2425656	Barium	102	101	P/P	80 - 120
2425656	Beryllium	92.9	93.0	P/P	80 - 120
2425656	Boron	99.3	98.7	P/P	80 - 120
2425656	Cadmium	99.3	99.0	P/P	80 - 120
2425656	Chromium	94.4	94.5	P/P	80 - 120
2425656	Cobalt	95.8	94.9	P/P	80 - 120
2425656	Copper	97.6	96.0	P/P	80 - 120
2425656	Lead	93.6	93.1	P/P	80 - 120
2425656	Manganese	94.1	94.1	P/P	80 - 120
2425656	Molybdenum	96.6	95.6	P/P	80 - 120
2425656	Nickel	94.6	93.0	P/P	80 - 120
2425656	Selenium	98.0	96.7	P/P	80 - 120
2425656	Silver	113	113	P/P	80 - 120
2425656	Thallium	96.4	96.0	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432849

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425747	Aluminum	96.0		P	80 - 120
2425747	Antimony	99.9		P	80 - 120
2425747	Arsenic	95.2		P	80 - 120
2425747	Barium	101		P	80 - 120
2425747	Beryllium	88.4		P	80 - 120
2425747	Boron	98.0		P	80 - 120
2425747	Cadmium	100		P	80 - 120
2425747	Chromium	92.5		P	80 - 120
2425747	Cobalt	90.6		P	80 - 120
2425747	Copper	92.6		P	80 - 120
2425747	Lead	91.9		P	80 - 120
2425747	Manganese	92.0		P	80 - 120
2425747	Molybdenum	98.7		P	80 - 120
2425747	Nickel	88.0		P	80 - 120
2425747	Selenium	96.6		P	80 - 120
2425747	Silver	112		P	80 - 120
2425747	Thallium	95.7		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425676	Aluminum	101	118	P/P	70 - 130
2425676	Antimony	97.3	99.1	P/P	70 - 130
2425676	Arsenic	108	107	P/P	70 - 130
2425676	Barium	101	102	P/P	70 - 130
2425676	Beryllium	89.3	90.3	P/P	70 - 130
2425676	Boron	103	95.8	P/P	70 - 130
2425676	Cadmium	91.6	93.6	P/P	70 - 130
2425676	Chromium	96.3	97.0	P/P	70 - 130
2425676	Cobalt	96.2	95.5	P/P	70 - 130
2425676	Copper	104	104	P/P	70 - 130
2425676	Lead	101	101	P/P	70 - 130
2425676	Manganese	94.0	95.4	P/P	70 - 130
2425676	Molybdenum	109	111	P/P	70 - 130
2425676	Nickel	94.0	94.5	P/P	70 - 130
2425676	Selenium	102	101	P/P	70 - 130
2425676	Silver	91.7	92.9	P/P	70 - 130
2425676	Thallium	103	104	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P433121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425462	Chloride	97.3		P	90 - 110
2425629	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P433124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425462	Sulfate	97.1		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425629	Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2424799	Ammonia-N	97.8	98.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425412	Ammonia-N	95.8	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425381	Kjeldahl Nitrogen	99.9	112	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433031

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425810	Kjeldahl Nitrogen	104	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425432	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432950

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425412	NO2NO3-N	99.0	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432886

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425382	Total-P	106	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432888

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425432	Total-P	102	102	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P432753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425445	Aldrin	41.4	49.4	P/P	24 - 81.0
2425445	Alpha-BHC	85.6	84.0	P/P	65 - 110
2425445	Alpha-Chlordane	49.9	55.8	P/P	43 - 119
2425445	Beta-BHC	61.0	98.0	P/P	54 - 165
2425445	Beta-Cyfluthrin	72.0	110	P/P	27 - 165
2425445	Bifenthrin	43.5	65.7	P/P	17 - 117
2425445	Carbophenothion	35.0	49.6	P/P	21 - 108
2425445	Chlorothalonil	54.4	50.9	P/P	10 - 255
2425445	Cis-Nonachlor	38.5	51.2	P/P	34 - 98.0
2425445	Cypermethrin	54.2	72.7	P/P	25 - 143
2425445	Dacthal	63.1	90.4	P/P	55 - 139
2425445	DDD-p,p'	60.1	66.0	P/P	30 - 109
2425445	DDE-p,p'	66.7	68.0	P/P	35 - 106
2425445	DDT-p,p'	43.1	57.4	P/P	41 - 101
2425445	Delta-BHC	79.4	88.5	P/P	58 - 165
2425445	Deltamethrin	86.7	135	P/P	10 - 194
2425445	Dichlobenil	52.0	66.3	P/P	22 - 114
2425445	Dicofol	56.9	71.5	P/P	17 - 133
2425445	Dieldrin	64.3	64.8	P/P	45 - 129
2425445	Endosulfan I	69.9	66.6	P/P	49 - 104
2425445	Endosulfan II	71.3	96.1	P/P	37 - 117
2425445	Endosulfan Sulfate	102	83.5	P/P	38 - 128
2425445	Endrin	68.9	72.6	P/P	35 - 116
2425445	Endrin Aldehyde	49.6	54.0	P/P	19 - 108
2425445	Endrin Ketone	49.8	56.1	P/P	44 - 134
2425445	Esfenvalerate	74.2	87.8	P/P	27 - 176
2425445	Ethalfuralin	67.5	68.6	P/P	49 - 100
2425445	Fenpropathrin	53.5	66.5	P/P	34 - 117
2425445	Gamma-BHC	97.5	104	P/P	59 - 129
2425445	Gamma-Chlordane	48.8	67.6	P/P	33 - 107
2425445	Heptachlor	51.6	68.1	P/P	37 - 94.0
2425445	Heptachlor Epoxide	57.8	71.3	P/P	38 - 118
2425445	Hexachlorobenzene	46.4	60.1	P/P	35 - 97.0
2425445	Kepone	65.0	67.6	P/P	10 - 221
2425445	Lambda-Cyhalothrin	54.8	94.4	P/P	23 - 190
2425445	Methoprene	50.9	75.3	P/P	21 - 109
2425445	Methoxychlor	69.5	110	P/P	46 - 118
2425445	MGK-264	56.8	98.3	P/P	39 - 122
2425445	Mirex	43.9	54.6	P/P	25 - 90.0
2425445	Oxychlordane	46.4	49.1	P/P	42 - 100
2425445	Permethrin	67.9	111	P/P	33 - 181
2425445	Phenothrin	76.4	105	P/P	12 - 125
2425445	Piperonyl Butoxide	222	273	F/F	10 - 178
2425445	Prallethrin	89.4	72.0	P/P	24 - 122
2425445	Tau-Fluvalinate	64.4	108	P/P	13 - 151
2425445	Tetramethrin	60.1	99.4	P/P	16 - 172
2425445	Trans-Nonachlor	56.4	83.2	P/P	39 - 100
2425445	Triclosan Methyl	90.2	76.7	P/P	43 - 110
2425445	Trifluralin	62.0	61.8	P/P	45 - 94.0
2425691	PCB-1016	73.3	60.0	P/P	45 - 107
2425691	PCB-1260	60.8	48.2	P/P	40 - 112

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P432753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425691	Chlordane	54.1	41.3	P/F	43 - 123
2425691	Toxaphene	49.2	46.3	P/P	27 - 156

Reference Method: EPA 8276
Batch ID: P433371

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2428871	Chlordane	96.5	85.2	P/P	43 - 123
2428871	Toxaphene	113	105	P/P	27 - 156

Reference Method: EPA 8321B
Batch ID: P432878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2424967	Acesulfame K	60.0	81.4	P/P	40 - 150
2424967	AMPA	25.0	25.9	F/F	40 - 150
2424967	Endothall	133	124	P/P	40 - 150
2424967	Glufosinate	42.6	42.5	P/P	40 - 150
2424967	Glyphosate	79.8	82.6	P/P	40 - 150
2424967	Sucralose	91.2	125	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P432883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425633	2,4-D	113	118	P/P	40 - 150
2425633	2,4,5-T	109	104	P/P	40 - 150
2425633	Acetaminophen	99.4	98.4	P/P	30 - 150
2425633	Acetamiprid	60.0	61.8	P/P	40 - 150
2425633	Afidopyropen	66.9	73.3	P/P	30 - 150
2425633	Bentazon	119	117	P/P	30 - 150
2425633	Benzovindiflupyr	80.7	79.7	P/P	40 - 150
2425633	Carbamazepine	50.0	55.9	P/P	40 - 150
2425633	Clothianidin	87.2	84.9	P/P	40 - 150
2425633	Dinotefuran	67.5	82.3	P/P	40 - 150
2425633	Diuron	31.6	34.4	F/F	40 - 150
2425633	Fenuron	61.1	64.6	P/P	40 - 150
2425633	Fluridone	87.9	90.3	P/P	40 - 150
2425633	Hydrocodone	60.2	62.3	P/P	40 - 150
2425633	Ibuprofen	66.2	69.8	P/P	40 - 150
2425633	Imazapyr	95.7	98.5	P/P	40 - 150
2425633	Imidacloprid	115	120	P/P	40 - 150
2425633	Linuron	52.8	50.5	P/P	40 - 150
2425633	Mandestrobin	80.0	85.3	P/P	40 - 150
2425633	MCCPP	124	123	P/P	40 - 150
2425633	Naproxen	128	128	P/P	40 - 150
2425633	Primidone	78.0	75.2	P/P	40 - 150
2425633	Pyraclostrobin	77.3	76.6	P/P	40 - 150
2425633	Silvex	116	114	P/P	40 - 150
2425633	Thiamethoxam	76.5	76.7	P/P	40 - 150
2425633	Tolfenpyrad	57.7	56.4	P/P	30 - 150
2425633	Triclopyr	102	103	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P432903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425505	Fluoride	93.4	95.6	F/P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P433014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2424792	Fluoride	98.4	99.1	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P432910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2424928	Organic Carbon	92.6	95.4	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P432911

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425432	Organic Carbon	94.6	94.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P432789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425418	Color (true)	2.26	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P432792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425433	Color (true)	1.47	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425309	Turbidity	6.70	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P432849

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425656	Calcium	1.14	Spike	P	0 - 20
2425656	Iron	0.337	Spike	P	0 - 20
2425656	Magnesium	0.368	Spike	P	0 - 20
2425656	Potassium	1.04	Spike	P	0 - 20
2425656	Sodium	0.449	Spike	P	0 - 20
2425656	Strontium	1.52	Spike	P	0 - 20
2425656	Tin	3.06	Spike	P	0 - 20
2425656	Titanium	0.189	Spike	P	0 - 20
2425656	Vanadium	0.101	Spike	P	0 - 20
2425656	Zinc	0.194	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P432913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425676	Calcium	4.06	Spike	P	0 - 20
2425676	Iron	4.61	Spike	P	0 - 20
2425676	Magnesium	5.47	Spike	P	0 - 20
2425676	Potassium	5.52	Spike	P	0 - 20
2425676	Sodium	3.62	Spike	P	0 - 20
2425676	Strontium	4.00	Spike	P	0 - 20
2425676	Tin	0.636	Spike	P	0 - 20
2425676	Titanium	5.29	Spike	P	0 - 20
2425676	Vanadium	3.85	Spike	P	0 - 20
2425676	Zinc	2.77	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432849

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425656	Aluminum	1.10	Spike	P	0 - 20
2425656	Antimony	0.915	Spike	P	0 - 20
2425656	Arsenic	0.969	Spike	P	0 - 20
2425656	Barium	0.511	Spike	P	0 - 20
2425656	Beryllium	0.114	Spike	P	0 - 20
2425656	Boron	0.554	Spike	P	0 - 20
2425656	Cadmium	0.272	Spike	P	0 - 20
2425656	Chromium	0.174	Spike	P	0 - 20
2425656	Cobalt	0.923	Spike	P	0 - 20
2425656	Copper	1.71	Spike	P	0 - 20
2425656	Lead	0.541	Spike	P	0 - 20
2425656	Manganese	0.00874	Spike	P	0 - 20
2425656	Molybdenum	0.967	Spike	P	0 - 20
2425656	Nickel	1.68	Spike	P	0 - 20
2425656	Selenium	1.42	Spike	P	0 - 20
2425656	Silver	0.0993	Spike	P	0 - 20
2425656	Thallium	0.512	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425676	Aluminum	11.2	Spike	P	0 - 20
2425676	Antimony	1.77	Spike	P	0 - 20
2425676	Arsenic	0.335	Spike	P	0 - 20
2425676	Barium	0.587	Spike	P	0 - 20
2425676	Beryllium	1.05	Spike	P	0 - 20
2425676	Boron	0.929	Spike	P	0 - 20
2425676	Cadmium	2.18	Spike	P	0 - 20
2425676	Chromium	0.754	Spike	P	0 - 20
2425676	Cobalt	0.713	Spike	P	0 - 20
2425676	Copper	0.530	Spike	P	0 - 20
2425676	Lead	0.533	Spike	P	0 - 20
2425676	Manganese	1.03	Spike	P	0 - 20
2425676	Molybdenum	1.96	Spike	P	0 - 20
2425676	Nickel	0.554	Spike	P	0 - 20
2425676	Selenium	0.680	Spike	P	0 - 20
2425676	Silver	1.24	Spike	P	0 - 20
2425676	Thallium	0.933	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P433121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425462	Chloride	0.127	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425462	Sulfate	0.0	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424799	Ammonia-N	0.345	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425412	Ammonia-N	1.13	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425381	Kjeldahl Nitrogen	8.55	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433031

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425810	Kjeldahl Nitrogen	2.43	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432946

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425432	NO2NO3-N	0.295	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432950

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425412	NO2NO3-N	1.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432886

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425382	Total-P	1.59	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P432888

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425432	Total-P	0.343	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P432753

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425445	Aldrin	17.8	Spike	P	0 - 41
2425445	Alpha-BHC	1.89	Spike	P	0 - 25
2425445	Alpha-Chlordane	11.2	Spike	P	0 - 32
2425445	Beta-BHC	46.6	Spike	F	0 - 33
2425445	Beta-Cyfluthrin	41.7	Spike	P	0 - 43
2425445	Bifenthrin	40.7	Spike	P	0 - 52
2425445	Carbophenothion	34.6	Spike	P	0 - 49
2425445	Chlorothalonil	6.70	Spike	P	0 - 82
2425445	Cis-Nonachlor	28.2	Spike	P	0 - 33
2425445	Cypermethrin	29.0	Spike	P	0 - 51
2425445	Dacthal	35.6	Spike	F	0 - 27
2425445	DDD-p,p'	7.90	Spike	P	0 - 39
2425445	DDE-p,p'	1.99	Spike	P	0 - 31
2425445	DDT-p,p'	22.8	Spike	P	0 - 29
2425445	Delta-BHC	10.9	Spike	P	0 - 35
2425445	Deltamethrin	43.6	Spike	P	0 - 100
2425445	Dichlobenil	24.2	Spike	P	0 - 40
2425445	Dicofol	22.7	Spike	P	0 - 37
2425445	Dieldrin	0.726	Spike	P	0 - 27
2425445	Endosulfan I	4.83	Spike	P	0 - 23
2425445	Endosulfan II	29.6	Spike	P	0 - 34
2425445	Endosulfan Sulfate	19.8	Spike	P	0 - 36
2425445	Endrin	5.27	Spike	P	0 - 45
2425445	Endrin Aldehyde	8.55	Spike	P	0 - 76
2425445	Endrin Ketone	12.0	Spike	P	0 - 43
2425445	Esfenvalerate	16.8	Spike	P	0 - 51
2425445	Ethalfuralin	1.56	Spike	P	0 - 22
2425445	Fenpropathrin	21.7	Spike	P	0 - 49
2425445	Gamma-BHC	6.07	Spike	P	0 - 28
2425445	Gamma-Chlordane	32.3	Spike	P	0 - 40
2425445	Heptachlor	27.6	Spike	P	0 - 29
2425445	Heptachlor Epoxide	21.0	Spike	P	0 - 33
2425445	Hexachlorobenzene	25.7	Spike	P	0 - 36
2425445	Kepone	3.91	Spike	P	0 - 85
2425445	Lambda-Cyhalothrin	53.1	Spike	P	0 - 55
2425445	Methoprene	38.8	Spike	P	0 - 53
2425445	Methoxychlor	44.9	Spike	P	0 - 50
2425445	MGK-264	53.5	Spike	F	0 - 43
2425445	Mirex	21.6	Spike	P	0 - 40
2425445	Oxychlordane	5.77	Spike	P	0 - 31
2425445	Permethrin	48.4	Spike	P	0 - 50
2425445	Phenothrin	31.2	Spike	P	0 - 58
2425445	Piperonyl Butoxide	19.8	Spike	P	0 - 100
2425445	Prallethrin	21.6	Spike	P	0 - 39

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P432753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425445	Tau-Fluvalinate	50.5	Spike	P	0 - 54
2425445	Tetramethrin	49.3	Spike	P	0 - 51
2425445	Trans-Nonachlor	38.4	Spike	P	0 - 39
2425445	Triclosan Methyl	16.1	Spike	P	0 - 31
2425445	Trifluralin	0.304	Spike	P	0 - 22
2425691	PCB-1016	20.0	Spike	P	0 - 25
2425691	PCB-1260	23.1	Spike	P	0 - 30

Reference Method: EPA 8276
Batch ID: P432753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425691	Chlordane	26.9	Spike	P	0 - 28
2425691	Toxaphene	6.13	Spike	P	0 - 27

Reference Method: EPA 8276
Batch ID: P433371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2428871	Chlordane	12.4	Spike	P	0 - 28
2428871	Toxaphene	7.14	Spike	P	0 - 27

Reference Method: EPA 8321B
Batch ID: P432878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424967	Acesulfame K	30.2	Spike	F	0 - 30
2424967	AMPA	2.87	Spike	P	0 - 30
2424967	Endothall	6.61	Spike	P	0 - 30
2424967	Glufosinate	0.199	Spike	P	0 - 30
2424967	Glyphosate	3.46	Spike	P	0 - 30
2424967	Sucralose	30.8	Spike	F	0 - 30

Reference Method: EPA 8321B
Batch ID: P432883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425633	2,4-D	4.43	Spike	P	0 - 30
2425633	2,4,5-T	4.92	Spike	P	0 - 30
2425633	Acetaminophen	1.09	Spike	P	0 - 30
2425633	Acetamiprid	3.04	Spike	P	0 - 30
2425633	Afidopyropen	9.12	Spike	P	0 - 30
2425633	Bentazon	1.48	Spike	P	0 - 30
2425633	Benzovindiflupyr	1.21	Spike	P	0 - 30
2425633	Carbamazepine	11.1	Spike	P	0 - 30
2425633	Clothianidin	2.58	Spike	P	0 - 30
2425633	Dinotefuran	19.8	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P432883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425633	Diuron	8.62	Spike	P	0 - 30
2425633	Fenuron	5.50	Spike	P	0 - 30
2425633	Fluridone	2.69	Spike	P	0 - 30
2425633	Hydrocodone	3.44	Spike	P	0 - 30
2425633	Ibuprofen	5.32	Spike	P	0 - 30
2425633	Imazapyr	2.90	Spike	P	0 - 30
2425633	Imidacloprid	4.25	Spike	P	0 - 30
2425633	Linuron	4.34	Spike	P	0 - 30
2425633	Mandestrobin	6.39	Spike	P	0 - 30
2425633	MCPPP	0.402	Spike	P	0 - 30
2425633	Naproxen	0.122	Spike	P	0 - 30
2425633	Primidone	3.65	Spike	P	0 - 30
2425633	Pyraclostrobin	0.916	Spike	P	0 - 30
2425633	Silvex	2.05	Spike	P	0 - 30
2425633	Thiamethoxam	0.286	Spike	P	0 - 30
2425633	Tolfenpyrad	2.18	Spike	P	0 - 30
2425633	Triclopyr	0.638	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P432900

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425505	Total Alkalinity	1.19	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011

Batch ID: P433013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424792	Total Alkalinity	0.0499	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015

Batch ID: P433337

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425293	TDS	5.13	Sample	P	0 - 10

Reference Method: SM 2540 C-2015

Batch ID: P433338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425813	TDS	8.45	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P432903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
--------------------------	-----------	-----------	-------------------	-----------	----------------

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P432903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425505	Fluoride	2.02	Spike	F	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P433014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424792	Fluoride	0.477	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P432910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424928	Organic Carbon	2.43	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P432911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425432	Organic Carbon	0.0834	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2425445
Field Sample ID: G2SE0069

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	25.8	F	37 - 129
EPA 8270E	Decachlorobiphenyl	28.7	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	27.6	F	30 - 101
EPA 8270E	Tetrachloro-m-xylene	34.3	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	60.3	P	28 - 102
EPA 8276	Decachlorobiphenyl	16.9	F	28 - 102
EPA 8276	PCNB	66.7	P	49 - 115
EPA 8276	PCNB	27.2	F	49 - 115

Lab Sample ID: 2425446
Field Sample ID: G2SE0017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	81.9	P	37 - 129
EPA 8270E	Decachlorobiphenyl	86.3	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	69.2	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	78.4	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	31.2	P	28 - 102
EPA 8276	PCNB	87.4	P	49 - 115

Lab Sample ID: 2425447
Field Sample ID: G2SE0029

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	67.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	42.7	P	30 - 160
EPA 8321B	Diuron-d6	34.3	P	30 - 160
EPA 8321B	Endothall-d6	102	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	104	P	30 - 160
EPA 8321B	Ibuprofen-d3	55.5	P	30 - 160
EPA 8321B	Primidone-d5	79.3	P	30 - 160
EPA 8321B	Sucralose-d6	92.1	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A120528

Included Lab Sample IDs: 2425431, 2425433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 110
Color (true)	98.2	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A120531

Included Lab Sample IDs: 2425431, 2425433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120559

Included Lab Sample IDs: 2425432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	98.1	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A120580

Included Lab Sample IDs: 2425433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.7	93.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120580

Included Lab Sample IDs: 2425433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A120583

Included Lab Sample IDs: 2425432, 2425434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.7	95.3	P/P	90 - 110
Organic Carbon	97.0	95.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120590

Included Lab Sample IDs: 2425432, 2425434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	102	P/P	90 - 110
Total-P	101	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120600

Included Lab Sample IDs: 2425449, 2425450, 2425451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.3	95.2	P/P	90 - 110
Antimony	97.2	96.5	P/P	90 - 110
Arsenic	95.3	94.1	P/P	90 - 110
Barium	98.0	96.8	P/P	90 - 110
Beryllium	93.7	91.8	P/P	90 - 110
Boron	96.2	94.7	P/P	90 - 110
Cadmium	97.0	96.5	P/P	90 - 110
Chromium	96.0	93.9	P/P	90 - 110
Cobalt	94.7	92.9	P/P	90 - 110
Copper	94.4	92.1	P/P	90 - 110
Lead	91.4	90.2	P/P	90 - 110
Manganese	95.5	95.0	P/P	90 - 110
Molybdenum	95.1	94.4	P/P	90 - 110
Nickel	93.3	90.9	P/P	90 - 110
Selenium	95.3	96.3	P/P	90 - 110
Silver	98.3	98.1	P/P	90 - 110
Thallium	93.7	92.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A120601

Included Lab Sample IDs: 2425447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	96.7	106	P/P	60 - 160
Sucralose	86.2	89.4	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A120604

Included Lab Sample IDs: 2425447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	75.2	86.3	P/P	60 - 160
Endothall	117	110	P/P	60 - 160
Glufosinate	89.5	99.4	P/P	60 - 160
Glyphosate	107	110	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A120605

Included Lab Sample IDs: 2425449, 2425450, 2425451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	97.7	P/P	90 - 110
Iron	98.8	98.0	P/P	90 - 110
Magnesium	98.7	97.6	P/P	90 - 110
Potassium	96.3	95.9	P/P	90 - 110
Sodium	95.9	95.3	P/P	90 - 110
Strontium	102	101	P/P	90 - 110
Tin	103	101	P/P	90 - 110
Titanium	101	99.7	P/P	90 - 110
Vanadium	101	99.3	P/P	90 - 110
Zinc	104	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120607

Included Lab Sample IDs: 2425432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120608

Included Lab Sample IDs: 2425434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120620

Included Lab Sample IDs: 2425434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120636

Included Lab Sample IDs: 2425448

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.4	99.1	P/P	90 - 110
Antimony	97.4	97.7	P/P	90 - 110
Arsenic	98.9	97.8	P/P	90 - 110
Barium	99.7	98.9	P/P	90 - 110
Beryllium	98.6	97.4	P/P	90 - 110
Boron	93.4	97.4	P/P	90 - 110
Cadmium	98.3	97.2	P/P	90 - 110
Chromium	96.2	96.2	P/P	90 - 110
Cobalt	98.2	95.7	P/P	90 - 110
Copper	96.7	96.3	P/P	90 - 110
Lead	92.9	91.5	P/P	90 - 110
Manganese	97.2	95.9	P/P	90 - 110
Molybdenum	97.3	95.6	P/P	90 - 110
Nickel	97.3	94.9	P/P	90 - 110
Selenium	99.9	97.6	P/P	90 - 110
Silver	101	100	P/P	90 - 110
Thallium	95.8	93.9	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A120639

Included Lab Sample IDs: 2425431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.6	92.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120639

Included Lab Sample IDs: 2425431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A120639

Included Lab Sample IDs: 2425431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120677

Included Lab Sample IDs: 2425434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.0	97.3	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120686

Included Lab Sample IDs: 2425431, 2425433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120687

Included Lab Sample IDs: 2425432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.9	98.0	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A120707

Included Lab Sample IDs: 2425445, 2425446

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	101		P	80 - 120
PCB-1260	97.2		P	80 - 120

Reference Method: EPA 8270E

Run ID: A120716

Included Lab Sample IDs: 2425445, 2425446

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	101		P	80 - 120
Alpha-BHC	105		P	80 - 120
Alpha-Chlordane	101		P	80 - 120
Beta-BHC	103		P	80 - 120
Beta-Cyfluthrin	92.3		P	80 - 120
Bifenthrin	81.5		P	80 - 120
Carbophenothion	108		P	80 - 120
Chlorothalonil	94.2		P	80 - 120
Cis-Nonachlor	105		P	80 - 120
Cypermethrin	82.4		P	80 - 120
Dacthal	87.7		P	80 - 120
DDD-p,p'	94.3		P	80 - 120
DDE-p,p'	103		P	80 - 120
DDT-p,p'	93.1		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A120716

Included Lab Sample IDs: 2425445, 2425446

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Delta-BHC	93.8		P	80 - 120
Deltamethrin	96.2		P	80 - 120
Dichlobenil	109		P	80 - 120
Dicofol	94.0		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	96.8		P	80 - 120
Endosulfan II	91.7		P	80 - 120
Endosulfan Sulfate	114		P	80 - 120
Endrin	81.4		P	80 - 120
Endrin Aldehyde	80.8		P	80 - 120
Endrin Ketone	84.7		P	80 - 120
Esfenvalerate	99.8		P	80 - 120
Ethalfuralin	97.5		P	80 - 120
Fenpropathrin	82.4		P	80 - 120
Gamma-BHC	119		P	80 - 120
Gamma-Chlordane	92.0		P	80 - 120
Heptachlor	116		P	80 - 120
Heptachlor Epoxide	96.5		P	80 - 120
Hexachlorobenzene	102		P	80 - 120
Kepone	112		P	80 - 120
Lambda-Cyhalothrin	89.7		P	80 - 120
Methoprene	111		P	80 - 120
Methoxychlor	104		P	80 - 120
MGK-264	99.1		P	80 - 120
Mirex	92.7		P	80 - 120
Oxychlordane	87.3		P	80 - 120
Permethrin	94.0		P	80 - 120
Phenothrin	96.8		P	80 - 120
Piperonyl Butoxide	99.5		P	80 - 120
Prallethrin	98.2		P	80 - 120
Tau-Fluvalinate	98.4		P	80 - 120
Tetramethrin	90.7		P	80 - 120
Trans-Nonachlor	108		P	80 - 120
Triclosan Methyl	104		P	80 - 120
Trifluralin	96.9		P	80 - 120

Reference Method: EPA 8321B

Run ID: A120734

Included Lab Sample IDs: 2425447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	112	114	P/P	50 - 150
2,4,5-T	110	109	P/P	50 - 150
Acetaminophen	131	129	P/P	60 - 160
Acetamiprid	129	128	P/P	50 - 150
Afidopyropen	109	113	P/P	50 - 150
Bentazon	148	148	P/P	50 - 160
Benzovindiflupyr	130	124	P/P	50 - 150
Carbamazepine	140	133	P/P	60 - 150
Clothianidin	138	134	P/P	60 - 150
Dinotefuran	136	145	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A120734
Included Lab Sample IDs: 2425447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Diuron	139	124	P/P	60 - 160
Fenuron	124	128	P/P	60 - 150
Fluridone	134	135	P/P	60 - 160
Hydrocodone	125	129	P/P	60 - 150
Ibuprofen	92.7	103	P/P	50 - 160
Imazapyr	112	115	P/P	50 - 150
Imidacloprid	113	112	P/P	60 - 150
Linuron	111	108	P/P	60 - 150
Mandestrobin	132	133	P/P	50 - 150
MCPP	110	109	P/P	50 - 150
Naproxen	129	112	P/P	50 - 160
Primidone	118	99.1	P/P	60 - 150
Pyraclostrobin	126	127	P/P	60 - 150
Silvex	110	112	P/P	50 - 150
Thiamethoxam	128	130	P/P	50 - 150
Tolfenpyrad	113	121	P/P	60 - 150
Triclopyr	120	95.2	P/P	50 - 150

Reference Method: EPA 8276
Run ID: A120748
Included Lab Sample IDs: 2425446

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	106		P	80 - 120
Toxaphene	103		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A120773
Included Lab Sample IDs: 2425448

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	101	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	100	100	P/P	90 - 110
Potassium	96.3	97.6	P/P	90 - 110
Sodium	96.9	98.0	P/P	90 - 110
Strontium	98.7	93.3	P/P	90 - 110
Tin	101	96.1	P/P	90 - 110
Titanium	100	95.6	P/P	90 - 110
Vanadium	101	96.0	P/P	90 - 110
Zinc	103	98.2	P/P	90 - 110

Reference Method: EPA 8276
Run ID: A120944
Included Lab Sample IDs: 2425445

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	104		P	80 - 120
Toxaphene	108		P	80 - 120

Quality Assurance Report

Calibration Verification

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	98.1				2.26	
	Color (true)	97.8				1.47	
EPA 180.1 Rev. 2.0	Turbidity	99.5				6.70	
EPA 200.7 Rev. 4.4	Calcium	109	106	108	101		1.14
	Calcium	103					4.06
	Iron	107	107	107	105		0.337
	Iron	106	95.6	101			4.61
	Magnesium	107	107	107	102		0.368
	Magnesium	103					5.47
	Potassium	105	107	105	107		1.04
	Potassium	100					5.52
	Sodium	106	105	105	105		0.449
	Sodium	100					3.62
	Strontium	103	103	105	102		1.52
	Strontium	95.7					4.00
	Tin	106	107	103	102		3.06
	Tin	98.7	87.3	86.8			0.636
	Titanium	103	102	102	103		0.189
	Titanium	97.3	88.6	94.5			5.29
	Vanadium	103	102	102	104		0.101
	Vanadium	97.9	95.9	99.7			3.85
	Zinc	105	104	103	101		0.194
	Zinc	101	92.2	94.8			2.77
EPA 200.8 Rev. 5.4	Aluminum	97.1	99.0	97.9	96.0		1.10
	Aluminum	98.5	101	118			11.2
	Antimony	98.2	100	99.6	99.9		0.915
	Antimony	102	97.3	99.1			1.77
	Arsenic	96.6	96.9	96.0	95.2		0.969
	Arsenic	100	108	107			0.335
	Barium	101	102	101	101		0.511
	Barium	104	101	102			0.587
	Beryllium	92.4	92.9	93.0	88.4		0.114
	Beryllium	94.2	89.3	90.3			1.05
	Boron	94.9	99.3	98.7	98.0		0.554
	Boron	98.9	103	95.8			0.929
	Cadmium	97.8	99.3	99.0	100		0.272
	Cadmium	100	91.6	93.6			2.18
	Chromium	92.4	94.4	94.5	92.5		0.174
	Chromium	96.8	96.3	97.0			0.754
	Cobalt	95.7	95.8	94.9	90.6		0.923
	Cobalt	97.9	96.2	95.5			0.713
	Copper	96.6	97.6	96.0	92.6		1.71
	Copper	96.6	104	104			0.530
	Lead	91.6	93.6	93.1	91.9		0.541
	Lead	95.3	101	101			0.533
	Manganese	93.3	94.1	94.1	92.0		0.0087
	Manganese	97.0	94.0	95.4			1.03
	Molybdenum	96.3	96.6	95.6	98.7		0.967
	Molybdenum	97.6	109	111			1.96
	Nickel	94.1	94.6	93.0	88.0		1.68
	Nickel	96.4	94.0	94.5			0.554
	Selenium	98.5	98.0	96.7	96.6		1.42
	Selenium	101	102	101			0.680
	Silver	114	113	113	112		0.0993

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 200.8 Rev. 5.4	Silver	103	91.7	92.9	95.7		1.24
	Thallium	93.4	96.4	96.0			0.512
	Thallium	97.6	103	104			0.933
EPA 300.0 Rev. 2.1	Chloride	101	97.3	103		0.127	
	Sulfate	99.8	97.1	99.9		0.0	
EPA 350.1 Rev. 2.0	Ammonia-N	94.8	97.8	98.4			0.345
	Ammonia-N	101	95.8	97.2			1.13
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.9	112			8.55
	Kjeldahl Nitrogen	105	104	101			2.43
EPA 353.2 Rev. 2.0	NO2NO3-N	101	100	101			0.295
	NO2NO3-N	102	99.0	102			1.37
EPA 365.1 Rev. 2.0	Total-P	102	106	104			1.59
	Total-P	102	102	102			0.343
EPA 8270E	Aldrin	34.7	41.4	49.4			17.8
	Alpha-BHC	84.5	85.6	84.0			1.89
	Alpha-Chlordane	59.1	49.9	55.8			11.2
	Beta-BHC	85.9	61.0	98.0			46.6
	Beta-Cyfluthrin	73.1	72.0	110			41.7
	Bifenthrin	45.0	43.5	65.7			40.7
	Carbophenothion	44.9	35.0	49.6			34.6
	Chlorothalonil	68.0	54.4	50.9			6.70
	Cis-Nonachlor	51.0	38.5	51.2			28.2
	Cypermethrin	49.9	54.2	72.7			29.0
	Dacthal	58.0	63.1	90.4			35.6
	DDD-p,p'	74.8	60.1	66.0			7.90
	DDE-p,p'	58.0	66.7	68.0			1.99
	DDT-p,p'	59.8	43.1	57.4			22.8
	Delta-BHC	87.1	79.4	88.5			10.9
	Deltamethrin	104	86.7	135			43.6
	Dichlobenil	77.9	52.0	66.3			24.2
	Dicofol	66.8	56.9	71.5			22.7
	Dieldrin	59.4	64.3	64.8			0.726
	Endosulfan I	58.1	69.9	66.6			4.83
	Endosulfan II	74.2	71.3	96.1			29.6
	Endosulfan Sulfate	74.7	102	83.5			19.8
	Endrin	63.8	68.9	72.6			5.27
	Endrin Aldehyde	70.2	49.6	54.0			8.55
	Endrin Ketone	64.4	49.8	56.1			12.0
	Esfenvalerate	73.6	74.2	87.8			16.8
	Ethalfuralin	61.8	67.5	68.6			1.56
	Fenpropathrin	58.4	53.5	66.5			21.7
	Gamma-BHC	98.3	97.5	104			6.07
	Gamma-Chlordane	65.2	48.8	67.6			32.3
	Heptachlor	49.0	51.6	68.1			27.6
	Heptachlor Epoxide	60.0	57.8	71.3			21.0
	Hexachlorobenzene	68.8	46.4	60.1			25.7
	Kepone	85.0	65.0	67.6			3.91
	Lambda-Cyhalothrin	54.6	54.8	94.4			53.1
	Methoprene	67.9	50.9	75.3			38.8
	Methoxychlor	86.6	69.5	110			44.9
	MGK-264	56.8	56.8	98.3			53.5
	Mirex	56.6	43.9	54.6			21.6
	Oxychlordane	52.2	46.4	49.1			5.77
	PCB-1016	68.9	73.3	60.0			20.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	PCB-1260	71.0	60.8	48.2		23.1
	Permethrin	69.4	67.9	111		48.4
	Phenothrin	55.1	76.4	105		31.2
	Piperonyl Butoxide	92.4	222	273		19.8
	Prallethrin	62.5	89.4	72.0		21.6
	Tau-Fluvalinate	63.9	64.4	108		50.5
	Tetramethrin	64.4	60.1	99.4		49.3
	Trans-Nonachlor	73.1	56.4	83.2		38.4
	Triclosan Methyl	63.6	90.2	76.7		16.1
	Trifluralin	57.2	62.0	61.8		0.304
EPA 8276	Chlordane	71.4	54.1	41.3		26.9
	Chlordane	85.6	96.5	85.2		12.4
	Toxaphene	75.5	49.2	46.3		6.13
	Toxaphene	103	113	105		7.14
EPA 8321B	2,4-D	81.8	118	113		4.43
	2,4,5-T	70.3	104	109		4.92
	Acesulfame K	94.8	60.0	81.4		30.2
	Acetaminophen	79.0	99.4	98.4		1.09
	Acetamiprid	79.5	60.0	61.8		3.04
	Afidopyropen	57.9	66.9	73.3		9.12
	AMPA	144	25.0	25.9		2.87
	Bentazon	126	117	119		1.48
	Benzovindiflupyr	78.2	80.7	79.7		1.21
	Carbamazepine	69.8	50.0	55.9		11.1
	Clothianidin	88.8	87.2	84.9		2.58
	Dinotefuran	88.5	67.5	82.3		19.8
	Diuron	44.0	31.6	34.4		8.62
	Endothall	106	133	124		6.61
	Fenuron	96.2	61.1	64.6		5.50
	Fluridone	98.8	87.9	90.3		2.69
	Glufosinate	93.4	42.6	42.5		0.199
	Glyphosate	91.5	79.8	82.6		3.46
	Hydrocodone	80.8	60.2	62.3		3.44
	Ibuprofen	72.5	69.8	66.2		5.32
	Imazapyr	79.8	98.5	95.7		2.90
	Imidacloprid	73.2	115	120		4.25
	Linuron	52.1	52.8	50.5		4.34
	Mandestrobin	81.4	80.0	85.3		6.39
	MCPP	86.2	123	124		0.402
	Naproxen	69.0	128	128		0.122
	Primidone	68.7	78.0	75.2		3.65
	Pyraclostrobin	74.0	77.3	76.6		0.916
	Silvex	87.9	114	116		2.05
	Sucralose	83.8	91.2	125		30.8
	Thiamethoxam	98.3	76.5	76.7		0.286
	Tolfenpyrad	56.8	57.7	56.4		2.18
	Triclopyr	70.8	103	102		0.638
SM 2320 B-2011	Total Alkalinity	94.8			1.19	
	Total Alkalinity	93.8			0.0499	
SM 2540 C-2015	TDS	104			5.13	
	TDS	98.8			8.45	
SM 2540 D-2015	TSS	94.1				
	TSS	95.8				
SM 4500-F- C-2011	Fluoride	97.2	93.4	95.6		2.02

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500-F- C-2011	Fluoride	97.2	98.4	99.1		0.477
SM 5310 B-2011	Organic Carbon	94.5	92.6	95.4		2.43
	Organic Carbon	95.8	94.6	94.5		0.0834

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2425431, 2425433
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2425431, 2425433
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2425448, 2425449, 2425450, 2425451
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2425448, 2425449, 2425450, 2425451
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2425431, 2425433
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2425431, 2425433
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2425432, 2425434
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2425432, 2425434
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2425432, 2425434
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2425432, 2425434
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2425445, 2425446
EPA 8270E	PCBs in water matrices by GC/MS/MS	2425445, 2425446
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2425445, 2425446
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2425447
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2425431, 2425433
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2425448, 2425449, 2425450, 2425451
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2425431, 2425433
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2425431, 2425433
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2425431, 2425433
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2425432, 2425434

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	07/20/2023			07/20/2023 14:35	Alexis Price	2425431
	07/20/2023			07/20/2023 15:15	Alexis Price	2425433
EPA 180.1 Rev. 2.0	07/20/2023			07/20/2023 14:28	Khloe J Berg	2425431
	07/20/2023			07/20/2023 14:29	Khloe J Berg	2425433
EPA 200.7 Rev. 4.4	07/20/2023	07/21/2023 12:10	George D Taylor	07/24/2023 19:32	McKinley C Carter	2425449
	07/20/2023	07/21/2023 12:10	George D Taylor	07/24/2023 19:47	McKinley C Carter	2425450
	07/20/2023	07/21/2023 12:10	George D Taylor	07/24/2023 19:55	McKinley C Carter	2425451
	07/20/2023	07/21/2023 12:10	George D Taylor	07/24/2023 20:03	McKinley C Carter	2425451
	07/20/2023	07/24/2023 12:50	George D Taylor	08/01/2023 23:07	Chase Roberts	2425448
EPA 200.8 Rev. 5.4	07/20/2023	07/24/2023 12:50	George D Taylor	08/01/2023 23:18	Chase Roberts	2425448
	07/20/2023	07/21/2023 12:10	George D Taylor	07/24/2023 16:25	Emily M Philpot	2425449
	07/20/2023	07/21/2023 12:10	George D Taylor	07/24/2023 16:35	Emily M Philpot	2425450
	07/20/2023	07/21/2023 12:10	George D Taylor	07/24/2023 16:45	Emily M Philpot	2425451
	07/20/2023	07/24/2023 12:50	George D Taylor	07/25/2023 16:37	Emily M Philpot	2425448
EPA 300.0 Rev. 2.1	07/20/2023	07/24/2023 12:50	George D Taylor	07/25/2023 18:03	Emily M Philpot	2425448
	07/20/2023			07/26/2023 01:02	James L Waggeberby	2425431
	07/20/2023			07/26/2023 01:17	James L Waggeberby	2425433
EPA 350.1 Rev. 2.0	07/20/2023			07/21/2023 12:21	Khloe J Berg	2425432
	07/20/2023			07/25/2023 11:57	Ping Hua	2425434
EPA 351.2 Rev. 2.0	07/20/2023	07/25/2023 15:32	Dana G. Hughes	07/27/2023 10:22	Samantha L Bates	2425434
	07/20/2023	07/26/2023 10:21	Dana G. Hughes	07/27/2023 14:32	Samantha L Bates	2425432
EPA 353.2 Rev. 2.0	07/20/2023			07/24/2023 13:20	Judith K. Clark	2425434
	07/20/2023			07/25/2023 08:45	Beverly Y. Sanders	2425432
EPA 365.1 Rev. 2.0	07/20/2023	07/24/2023 11:56	Alexis Price	07/24/2023 14:46	Simonne.V. Calhoun	2425434
	07/20/2023	07/24/2023 11:56	Alexis Price	07/24/2023 15:05	Simonne.V. Calhoun	2425432
EPA 8270E	07/20/2023	07/24/2023 08:00	Fe-Val Siddell	07/26/2023 21:02	Michael Poppell	2425445
	07/20/2023	07/24/2023 08:00	Fe-Val Siddell	07/26/2023 21:09	Lipi Saha	2425445
	07/20/2023	07/24/2023 08:00	Fe-Val Siddell	07/26/2023 21:31	Michael Poppell	2425446
	07/20/2023	07/24/2023 08:00	Fe-Val Siddell	07/26/2023 21:40	Lipi Saha	2425446
EPA 8276	07/20/2023	07/24/2023 08:00	Fe-Val Siddell	07/29/2023 09:56	Arthur Maknenko	2425446
	07/20/2023	08/07/2023 08:00	Fe-Val Siddell	08/09/2023 07:05	Arthur Maknenko	2425445
EPA 8321B	07/20/2023	07/24/2023 10:00	Hana Lee	07/24/2023 16:52	Tae K Lee	2425447
	07/20/2023	07/24/2023 10:00	Hana Lee	07/24/2023 20:23	Tae K Lee	2425447
	07/20/2023	07/24/2023 10:00	Hana Lee	07/25/2023 03:25	Tae K Lee	2425447
SM 2320 B-2011	07/20/2023	07/25/2023 14:00	Hoor Shaik	07/25/2023 20:28	Juyoung Kim	2425447
	07/20/2023			07/22/2023 11:53	Dale L. Simmons	2425433
	07/20/2023			07/25/2023 21:37	Dale L. Simmons	2425431
SM 2340 B-2011	07/20/2023			07/24/2023 19:32	McKinley C Carter	2425449
	07/20/2023			07/24/2023 19:47	McKinley C Carter	2425450
	07/20/2023			07/24/2023 19:55	McKinley C Carter	2425451

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2340 B-2011	07/20/2023			08/01/2023 23:18	Chase Roberts	2425448
SM 2540 C-2015	07/20/2023			07/25/2023 15:46	Yijie Li	2425431, 2425433
SM 2540 D-2015	07/20/2023			07/25/2023 15:46	Yijie Li	2425431, 2425433
SM 4500-F- C-2011	07/20/2023			07/22/2023 11:53	Dale L. Simmons	2425433
	07/20/2023			07/25/2023 19:21	Dale L. Simmons	2425431
SM 5310 B-2011	07/20/2023			07/21/2023 21:47	Elise M. Gillis	2425434
	07/20/2023			07/21/2023 23:14	Elise M. Gillis	2425432